

Ocean Energy Development Unit Prototype Development Fund - Call for Expressions of Interest

Background

In 2006, the Marine Institute and Sustainable Energy Ireland prepared the National Strategy for Ocean Energy. This phased strategy aims (a) to introduce ocean energy into the renewables portfolio in Ireland and (b) to develop an ocean energy sector. It aims to support national developers of wave energy devices through concept validation, model design optimisation and scale model testing and deployment.

- In Phase 1 (2005-2007) An Offshore test site for ¼ scale prototypes was developed in Galway Bay, research capability was enhanced and some funding was provided, from a variety of sources, to researchers and developers.
- Phase 2 (2008-2010) continues activities of Phase 1 and provides enhanced support for the demonstration of Pre-Commercial Single Devices. This phase provides a mechanism to bring successful designs from the prototype stage to the construction of a fully operational pre-commercial wave energy converter which will supply power directly to the electricity network. The results of this phase will be used to assess the commercial viability of the technology and the resulting industrial opportunities available to Ireland. A grid-connected test site will be developed during the period 2008-2010
- Phase 3 (2011-2015) will involve pre-commercial small array testing and evaluation over a sustained period
- Phase 4 (2016 -) will involve development of strategies for commercial deployment of wave power technologies

The strategic context of the programme have now changed with targets for the use of Ocean Energy in Ireland, as announced by the Government in the White Paper and the Programme for Government, increased to 75 Mw by 2012 and 500Mw by 2020.

In announcing the Government's support for the Ocean Energy Strategy, the Minister provided a specific 3-year budgetary provision of €26m to fund the establishment and operation of the Ocean Energy Development Unit in SEI, the establishment of wave and tidal test facilities, the enhancement of the national wave tank facility, a power-purchase scheme for electricity produced from OE, and an indicative sum of €10m support fund to support research and prototype development by industry.

Expressions of Interest are now invited for projects, which are aligned to the Strategy's objectives, and will develop new, and enhance existing technology particularly through prototype development and testing.

Development Fund Programme

The main focus of the programme is on stimulating the development and deployment of OE devices and systems. As such, the emphasis is on industry-led projects for the following types of activities:

- Industry-led projects to develop and test wave and tidal energy capture devices and systems;
- Independent monitoring of projects/technologies;
- Industry-led R&D aimed at the integration of ocean energy into the electricity market and the national electricity grid (and network)
- Data monitoring, forecasting, communications and control of OE systems
- Specific industry-led research projects which will be carried out by research centres, third level institutions and centres of excellence with a high level of expertise in the relevant area;

Applicants must demonstrate a strong technical underpinning for their technology and be able to describe satisfactorily the theoretical performance of a proposed device. The theoretical model must provide evidence for the performance and cost of the proposed device. It is recommended that interested applicants familiarise themselves with, and apply, the International Energy Agency -Ocean Energy System document on the “Development of Recommended Practices for Testing and Evaluating Ocean Energy Systems” and the Ocean Energy Development and Evaluation Protocol, prepared by the HMRC, Cork. Where devices have undergone scale-model tests, independently verified data on the results must be provided. Larger scale projects will also be required to demonstrate a viable Business Development Plan.

The table below illustrates the type of projects which might be supported under this scheme.

Work Type	Feasibility	Research and Development			Prototype
Stage ⁽²⁾	Concept	Validation Model	Lab Design Model	Process Model	Prototype
Typical Duration	2months	4 months	4 months	12 months	12 – 18 months
Indicative Funding ⁽³⁾	<€15,000	€30,000 - €45,000	€50,000 - €100,000	100,000 - €250,000	Indicative €1,000,000
Max funding rate for industry	45%	45%	45%	45%	45%
Max funding rate 3 rd level research	75%	75%	75%	75%	N/A
Examples of Work type undertaken	Desk study Patent search Paper search	Numerical model Small scale testing in Ocean Basin	Medium scale testing in large basin or flume Sea-keeping Survival Moorings	Real Ocean testing Power take-off Motions Control	Full Scale testing Grid connection Control Optimisation
Example of work location - Wave	3 rd Level Research Institution	NOETF @ HMRC	ECN France	Galway Bay Test site	Full Scale test site
Example of work location- Tidal	3 rd Level Research Institution	CFD @ HMRC	QUB Strangford test	Test Flume	EMEC
Assessment	By Application and Expert Review ⁽¹⁾			By Application, Review and Negotiation	

Notes:

⁽¹⁾ Independent experts may be employed to review applications

⁽²⁾ See Design and Evaluation Protocol for more detail of each stage

⁽³⁾ This funding scheme is for device development and excludes project development

- Up to 45% support is available to support technical feasibility studies and research and development projects for wave or tidal energy devices.

- Up to 45% support is available for test and demonstration of prototype wave or tidal energy devices

The level of funding to industry will be determined by the size of the company.

Intellectual Property Rights:

In the case of collaborative projects undertaken in a research institution, to be eligible for funding the Intellectual Property will be owned by the Research Performing Organisation and accessed by the companies at market rates under a framework agreement detailing options, fields of use, time limits etc.

PROGRAMME MANAGEMENT

Submitting a Proposal

At this point, in order to facilitate early progress in respect to the government's funding of the OE Strategy, and to enable an efficient subsequent formal application procedure, we invite industry applicants to submit Expressions of Interest in respect to proposals that they wish to undertake.

Successful applicants will be invited to discuss a formal proposal and to submit a detailed application. Subsequent procedures for, evaluating and approving proposals, and for contract management, will be designed to ensure that the process is transparent, and that outcomes are based on independent and impartial advice in relation to compliance with the terms of the notification or call for proposals and value for money. Costs incurred by applicants, before formal approval of support from SEI has been granted, will not be eligible for support. Applicants should allow approximately 2 months from receipt of Expressions of Interest to delivery of contract before commencing the proposed project. All project start/finish dates, milestones and deliverables included in the proposal should allow for this response time in the planning process.

Expressions of Interest should include:

- A detailed description of the technology or device involved, including a history of work undertaken to date, technical data, testing undertaken and results obtained.
- A description of the project for which funding is being sought, including total project cost and funding requested.
- Details of public funding to date, and other funding sources.

Proposal Evaluation

The programme is organised and managed by SEI. Where necessary and appropriate, proposals may be submitted, in confidence, to external independent experts for evaluation.

Where full Proposals are sought, these will be evaluated to determine:

- Administrative compliance with programme requirements.
- Technical compliance with programme category requirements.
- Ability to facilitate and accelerate the development and deployment in Ireland of competitive ocean energy products, processes and systems;
- Ability to enable technical and other barriers to the development and introduction of Ocean Energy to be overcome;
- Contribution to the development of an indigenous OE industry
- Environmental compatibility of the technology/project
- Project management capability is assessed on the basis of:
 - Methodology of approach
 - Strength and balance of the team
 - Efficient use of resources

Provision for follow-up of the RD&D project planned utilisation of the results, and the subsequent business development plan, will also be a key consideration.

Contracting

If the Expression of Interest is favourably reviewed, the proposer will be invited to make a formal application. If support is awarded, a contract will be offered by SEI to the lead proposer. In addition to detailing financial and progress milestones and deliverables required, there may also be requirements with regard to provision of data and participation in marketing and promotional activities.

The rate of contract commitments to be entered into will be consistent with the funding profiles to which SEI is subject under the Ocean Energy Programme. Phasing of supports paid to projects is related to the achievement of project milestones and meeting the requirements for deliverables.

When claiming grant award, final payments to applicants will only be paid on proof of incurred costs. Therefore, applicants must ensure that they have adequate backup of costs and payments at all times. Milestone deliverables must be accompanied by statements, which provide evidence of incurred costs. Following satisfactory review of deliverables plus costs, SEI will then make the necessary grant payment.

SEI monitors projects that are awarded funding to ensure that they are implemented efficiently and correctly to help achieve successful results.

Project Implementation

Any SEI involvement in the implementation of the project will be set out in the contract. Project management remains the responsibility of the lead contractor but SEI will attempt to ensure that the objectives of the programme are met.

Projects funded by two (or more) official R&D support agencies

Proposal applications by Irish entities relating to OE RD&D, which have succeeded in attracting funding from other official national agencies or appropriate EU programmes (international collaboration), will be considered for supplementary funding, aimed at enhancing the benefits of the project, in line with the objectives of the OE Strategy.

Participation in other relevant international research networks, such as those operated under the aegis of the EU or the International Energy Agency (IEA) may also be supported.

In order to qualify as eligible for funding by SEI these proposals are required to comply with the EU Competition Directorate limits on levels of State Aid and to operate in accordance with the rules governing the operation of individual schemes.

In addition these projects are required to demonstrate how the contribution of the other funding agency/ agencies offers a significant benefit, such as: achieving a useful output that would not otherwise be possible; project cost economies; or other value for money benefit.

Eligibility for Funding

- Only those companies or organisations answering this call for Expressions of Interest will be eligible for funding in this round.
- Opportunities to participate are available to public, private and international entities resident in Ireland (including Irish subsidiaries of overseas companies) and carrying out projects in Ireland. In some circumstances, the programme may support Irish entities on work undertaken overseas, where this is necessary for the completion of the work. In exceptional cases, funding of work overseas may be supported where there is a demonstrable contribution to resolving specific Irish issues.
- Expressions of Interest will be accepted from individual organisations, or from organisations acting in collaboration with other organisations or with third level colleges/research institutes, either on a contractual basis or within consortia or joint ventures. Collaborative development programmes between manufacturers or service companies and research institutions or other centres of learning are actively encouraged.
- Legal entities that are not registered in Ireland are welcome to participate in projects supported by the programme, but we would not normally expect the programme to contribute to their costs, except in special circumstances.
- All funding will be subject to EU Competition Directorate limits on levels of State Aid.
- The Programme is not intended to support universities or other third-level institutions in undertaking fundamental research. Third-level institutions wishing to undertake fundamental research should contact the relevant body for such funding (such as the Irish Research Council for Engineering Science & Technology, the Programme for Research in Third Level Institutions, administered by the Higher Education Authority (HEA), or Science Foundation Ireland)

Contact:

Queries in respect to this call for Expression of Interest may be sent, by e-mail only, to oceanenergy@sei.ie.